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EXAMINER

CIRIC, LJILJANA V

ART UNIT

PAPER NUMBER

3743

DATE MAILED: 07/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/614,586

Applicant(s)

Elliot et al.

Examiner

Ljiljana V. Ciric *AVC*

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Apr 16, 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above, claim(s) 3-6 and 12-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 7-11, and 17-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Jul 12, 2000 is/are a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some\* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

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## **DETAILED ACTION**

### ***Response to Amendment***

1. This Office action is in response to applicant's amendment and arguments filed on April 16, 2002.
2. Claims 1 through 23 remain in the application. Of these, claims 3 through 6 and 12 through 16 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to non-elected species/inventions, there being no *allowable* generic or linking claim.
3. The amendment filed on April 16, 2002 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the thermal loop including *both* a gas cooler and a condenser as newly cited in the amended claims.

Applicant is required to cancel the new matter in the reply to this Office Action.

### ***Response to Arguments***

4. Applicant's arguments filed on April 16, 2002 have been fully considered but they are not persuasive.

Although applicant states that the "claims have been amended to address all of the Examiner's comments and objections", not all of the issues raised in conjunction with the rejection of the claims under 35 U.S.C. 112, second paragraph, as cited in the previous Office

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action have been addressed. See the rejection of the claims under 35 U.S.C. 112, second paragraph, which follow.

Applicant's arguments with respect to the previously made rejection of claims 1, 2, 7, 8, 11, 20, 24 (and not 14 as noted by applicant), 25, 28, and 29 under 35 U.S.C. 102(b) have been considered but are moot in view of the new ground(s) of rejection set forth below.

In response to applicant's arguments that the claim limitations differentiate from the prior art in that the claim limitations denote "that there is direct heat transfer between the three mentioned fluids", applicant is respectfully reminded that claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). Heat transfer between the three fluids is a functional, not a structural limitation. Also, "[A]pparatus claims cover what a device *is*, not what a device *does*. (Emphasis in original). *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

Applicant is also respectfully reminded that claims in a pending application should be given their broadest reasonable interpretation. *In re Pearson*, 181 USPQ 641 (CCPA 1974).

### ***Drawings***

5. Applicant's amendment and arguments filed on April 16, 2002 have obviated the objection to the drawings under 37 CFR 1.83(a) as cited in the previous Office action.
6. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following newly claimed features

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must be shown or the feature(s) canceled from the claim(s): a thermal loop including both a condenser and a gas cooler. Currently, the drawings only show a gas cooler integrated into a single heat exchanger with the heating element. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Specification***

7. Receipt and entry of the amended abstract is hereby acknowledged.
8. The amended abstract of the disclosure is objected to because its summary of the invention is not consistent with the invention as now claimed. For example, the amended abstract states that the condenser and the heating element are grouped together into a single heat exchanger, while the amended claims recite the gas cooler and the heating element as being grouped together into a single exchanger. Correction is required. See MPEP § 608.01(b).
9. Receipt and entry of the substitute specification is hereby acknowledged.
10. The disclosure (substitute specification) is objected to because of the following informalities: “*for exchanging* or providing an interface between” [page 3, lines 4-5, and numerous other occurrences] is not a grammatically correct as written--recommend deleting “for exchanging or”; a comma (,) followed by “and” should be inserted immediately following “by overcooled water” [page 6, line 11] for improved clarity and grammatical correctness; “the” should be inserted immediately preceding “air-conditioning mode” [page 12, line 6]; “the” should be inserted

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immediately preceding “heating mode” [page 12, line 14]; and, “the” should be inserted immediately preceding “de-misting mode” [page 12, line 18].

Appropriate correction is required.

11. The amended title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. As noted in the previous Office action relative to the use of this term in the claims, the term “air/heat-carrying fluid/refrigerant-fluid” is not clear as written and should not be used as such in the title.

***Claim Rejections - 35 U.S.C. § 112***

12. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

13. Claims 1, 2, 7-11, and 17-23 through are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Base claim 1, as amended, newly recites the thermal loop as including *both* a gas cooler and a condenser, whereas the original disclosure, including the drawings as originally filed, do not describe, show or otherwise suggest this.

14. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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15. Claims 1, 2, 7-11, and 17-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are still generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and contain grammatical and idiomatic informalities which render the claims unclear and indefinite.

It is still not clear which particular structural configuration is associated with the limitations “a *main air/heat-carrying fluid/refrigerant-fluid* exchanger” as cited in lines 4-5 of base claim 1, thereby rendering indefinite claim 1 and all claims depending therefrom with regard to the intended scope of protection sought. The words immediately preceding “exchanger” in these limitations are thus also given little or no patentable weight.

Also with regard to base claim 1 as amended, it is not clear as written, whether the gas cooler and the condenser as recited are (in which case this would be a double recitation of the same element) or are not (in which case there would be no support in the original disclosure) referring to the same element, thus further rendering the claim indefinite with regard to its intended scope.

There is insufficient antecedent basis for the following limitations in the claims, for example: “the main exchanger” [claim 2, line 3; claim 2, line 5; and, other occurrences]--note that there would be sufficient antecedent basis for either “the main module” or “said main module” or “the main air/heat-carrying fluid/refrigerant-fluid exchanger” or “said main air/heat-carrying

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fluid/refrigerant-fluid exchanger”; “the air” [claim 2, line 2, and other occurrences]--note that the air is not positively recited prior to this nor is the air inherent; “the heat-carrying fluid” [claim 2, line 2, and other occurrences]; “the refrigerant fluid” [claim 2, line 4, and other occurrences]; and, “the airflow” [claim 22, line 3; claim 23, lines 3-4].

The limitations following “wherein” in claim 9 are still not readily comprehensible as written, thereby rendering indefinite claim 9 and claim 10 depending therefrom. For example, it is not clear what is being exchanged by “*an element for exchanging* between the heat-carrying fluid and the refrigerant fluid comprises...” as recited in the claim. [In fact, a number of claims contain the similarly unclear limitation “for exchanging between” without specifying what is being exchanged, thus again rendering the claims indefinite with regard to the intended scope of protection sought; “exchanging” is a transitive verb and thus requires an object.] The remainder of the limitations following “wherein” in claim 9 are similarly unclear as written.

The limitations following “wherein” in each of claims 17 and 18 are also still not readily comprehensible as written, thereby rendering these claims, along with claim 19 depending from claim 18, indefinite.

The above is a comprehensive and generally indicative, but not necessarily an exhaustive, list of 35 U.S.C. 112, second paragraph, problems. Applicant is therefore advised to carefully review all of the claims for additional problems. Correction is required of all of the 35 U.S.C. 112, second paragraph problems, whether or not these were particularly pointed out above.



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***Claim Rejections - 35 U.S.C. § 102***

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

17. As best can be understood in view of the indefiniteness of the claims, claims 1, 2, 7, 11, and 20 through 23 are rejected under 35 U.S.C. 102(b) as being anticipated by *Kenny et al.*

*Kenny et al.* discloses a vehicular heating/air conditioning installation essentially as claimed, including a refrigerating compressor 14, a condenser 92, a number of pressure-reducing valves such as valves 84 and 154, an evaporator 82 or 152, and a heater or heating element 28 or 100. One of evaporators 82 and 152 also reads on the gas cooler as recited in the claims. In combination, either evaporator/"gas cooler" 152 and heater 100 or evaporator/"gas cooler" 82 and heater 28 read broadly on the "single exchanger" or main module as recited in the claims [see column 2, lines 46-50]. Vane or mode-select door 40 reads broadly on the mixing flap as cited in claims 22 and 23.

The reference thus reads on the claims.

***Claim Rejections - 35 U.S.C. § 103***

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. As best can be understood in view of the indefiniteness of the claims, claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Kenny et al.* in view of *Loup*.

As discussed in greater detail above, *Kenny et al.* discloses a vehicular heating/air conditioning installation essentially as claimed, including, either evaporator/"gas cooler" 152 and heater 100 or evaporator/"gas cooler" 82 and heater 28 grouped together to form a main heat exchanger module as recited in the claims [see column 2, lines 46-50] which is capable of transferring heat between three different fluids. *Kenny et al.*, however, does not specify a triple-fluid heat exchanger including a collector of heat-carrying fluid and a collector of refrigerant fluid which are arranged at opposite ends of the main heat exchanger or module as cited in claim 8 of the instant invention. Nevertheless, it is known in the art and taught by *Loup* to have a triple-fluid heat exchanger wherein a collector 1 corresponding to one of two distinct heat transfer fluids is disposed at one end of the triple-fluid heat exchanger module and a collector 2 corresponding to another of two distinct heat transfer fluids is disposed at the opposite end of the triple-fluid heat exchanger module in order to allow interweaving and stacking of the respective heat exchange fluid passages so as to minimize the volume occupied by the triple-fluid heat exchanger.

It would thus have been obvious to one skilled in the art at the time of invention to modify the vehicular heating/air conditioning installation of *Kenny et al.* by replacing the main heat exchanger module of *Kenny et al.* with a triple-fluid heat exchanger module having collectors for two different heat transfer fluids at opposite ends of the triple fluid heat exchanger module as

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taught by *Loup* in order to reduce the overall size of the vehicular heating/air conditioning installation as also taught by *Loup*, thus saving valuable space.

20. The non-application of art against claims 9 through 11 and 17 through 19 should not be construed as an indication that the claims contain allowable subject matter but rather that the claims could not be examined on the merits due to indefiniteness.

***Conclusion***

21. The following additional prior art made of record and not relied upon is considered pertinent to applicant's disclosure. *Averin* discloses a modular stacked triple-fluid heat exchanger for use in a vehicular air conditioning system.

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric, whose telephone number is (703) 308-3925. While she works a flexible schedule that varies from day to day and from week to week, Examiner Ciric may generally be reached at the Office during the work week between the hours of 10 a.m. and 6 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett, can be reached on (703) 308-0101. The fax phone number is (703) 305-3463.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

lvc

  
**LJILJANA CIRIC**  
**PATENT EXAMINER**

June 26, 2002